

इंटरनेट

मानक

Disclosure to Promote the Right To Information

Whereas the Parliament of India has set out to provide a practical regime of right to information for citizens to secure access to information under the control of public authorities, in order to promote transparency and accountability in the working of every public authority, and whereas the attached publication of the Bureau of Indian Standards is of particular interest to the public, particularly disadvantaged communities and those engaged in the pursuit of education and knowledge, the attached public safety standard is made available to promote the timely dissemination of this information in an accurate manner to the public.

“जानने का अधिकार, जीने का अधिकार”

Mazdoor Kisan Shakti Sangathan

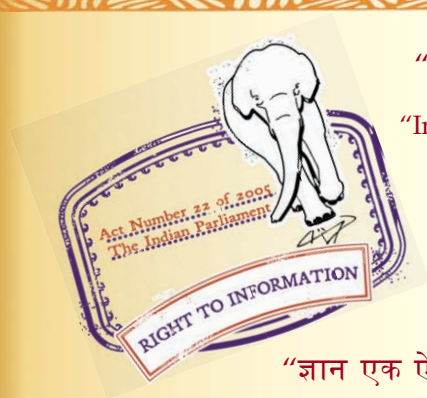
“The Right to Information, The Right to Live”

“पुराने को छोड़ नये के तरफ”

Jawaharlal Nehru

“Step Out From the Old to the New”

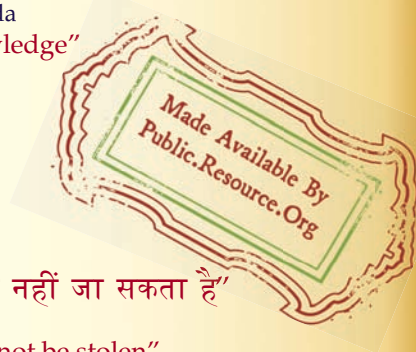
IS 5168 (1969): Glass feeding bottles [CHD 10: Glassware]



“ज्ञान से एक नये भारत का निर्माण”

Satyanarayan Gangaram Pitroda

“Invent a New India Using Knowledge”



“ज्ञान एक ऐसा खजाना है जो कभी चुराया नहीं जा सकता है”

Bhartrhari—Nitiśatakam

“Knowledge is such a treasure which cannot be stolen”

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IS : 5168 - 1969

Reaffirmed-2012

Indian Standard
SPECIFICATION FOR
GLASS FEEDING BOTTLES

UDC 615.473.84



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INDIAN STANDARDS INSTITUTION
MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG
NEW DELHI 1

October 1969

AMENDMENT NO. 2 JULY 2007
TO
IS 5168 : 1969 SPECIFICATION FOR CLASS
FEEDING BOTTLES

[Page 1, clause 3.1 (see also Amendment No 1)] — Substitute the following for the existing

3 TYPES

3 1 The bottles shall be of the following four types

- a) *Type 1* — with finish having one or two parallel rings to permit the rubber teat to be slipped on to provide a leakproof grip
- b) *Type 2* — with finish having screw threads to permit the rubber teat to be secured with the help of a plastic or metallic closure to make it leakproof
- c) *Type 3* — with opening at both ends
- d) *Type 4* — cylindrical with finish having screw threads to permit the rubber teat to be secured with the help of a plastic or metallic closure to make it leakproof

AMENDMENT NO. 1 NOVEMBER 2005
TO
IS 5168 : 1969 SPECIFICATION FOR GLASS FEEDING
BOTTLES

(Page 4, clause 3.1) — Insert the following at the end

- 'd) *Type 4* — cylindrical with finish having screw threads to permit the rubber teat to be secured with the help of a plastic or metallic closure to make it leakproof.'

(Page 4, clause 4.1) — Substitute the following for the existing clause:

'4.1 Pattern — The recommended patterns of glass feeding bottles are illustrated in Fig 1, 2, 3, 5 and 6'

(Page 4, clause 4.3) — Substitute the following for the existing clause

'4.3 Capacity — The bottles shall have nominal capacities as follows.

<i>Type</i>	<i>Nominal Capacity</i> ml
Type 1	200
Type 2	225
Type 3	200 100
Type 4	250 125

4.3.1 The brimful capacity shall exceed the nominal capacity by a minimum of 15 percent'

(Page 4, clause 4.4) — Insert the following at the end.

'The recommended dimensions for bottles of Type 4 of nominal capacities 250 ml and 125 ml shall be as given in Fig 5 and Fig. 6.'

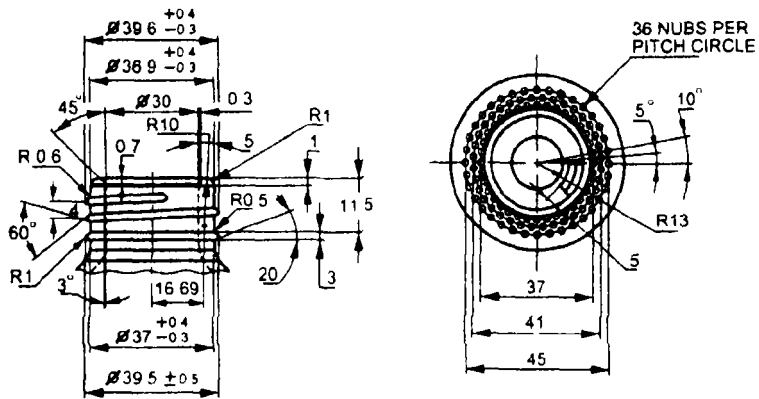
(Page 4, clause 4.5) — Insert the following at the end:

'The finish of Type 4 bottles of nominal capacities 250 ml and 125 ml shall be as shown in Fig 5 and Fig 6 '

(Page 8, Fig 4) — Insert Fig. 5 and Fig 6 after Fig. 4.

(Page 9, clause 4.6, first line) — Insert '25 ml as well as' in between the words 'every' and '50 ml'

Amend No. 1 to IS 5168 : 1969



THREAD GL 40 1.5 TURNS
 THREAD RUNOUT CUTTER $\varnothing 14$
 M 2 1

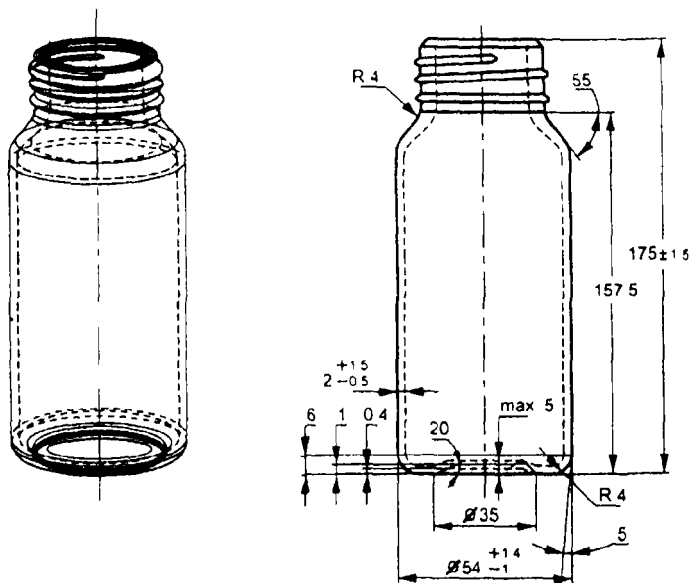


FIG 5 GLASS FEEDING BOTTLE, TYPE 4, 250 ml

Amend No. I to IS 5168 : 1969

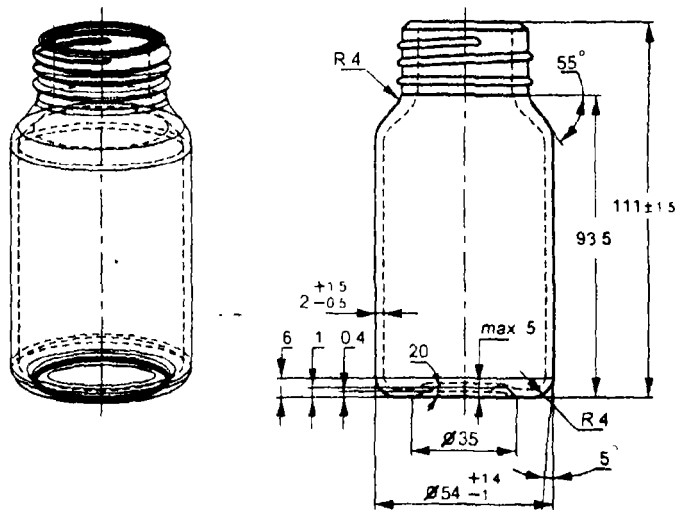
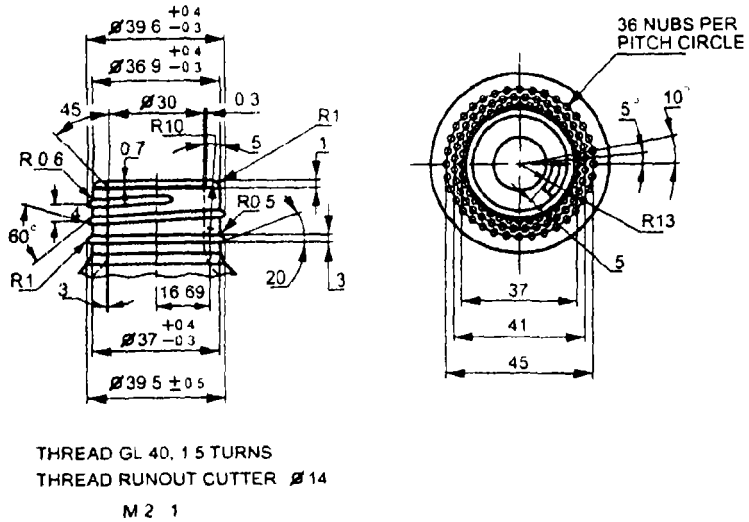


FIG.6 GLASS FINDING BOTTLE, TYPE 4, 125 ml

Amend No. 1 to IS 5168 : 1969

(Page 9, clause 4.7)— Substitute the following for the existing clause

'4.7 Limit of Alkalinity — When graded according to the method prescribed in IS 2101 (Part 1/ Sec 1) 1994*, the material shall conform to Class HGB 3 of glass'

(Page 9, footnote marked '*') — Substitute the following for the existing

*Grading glass for alkalinity Part 1 Hydrolytic resistance. Section 1 Hydrolytic resistance of glass grams at 98°C Method of test and classification (first revision)'

(Page 9, clause 4.8)— Insert the following at the end

'4.9 Bottle Washing

All bottles shall be thoroughly cleaned immediately before filling by automatic/semi-automatic washing machines Washing shall be accomplished by prerinse and final rinse For final rinse dechlorinated potable water shall be used Bottles should be thoroughly drained after final rinse so that strength of content is not affected after filling Water jets in the washing machine should be so designed and jet pressure so maintained as to thoroughly rinse the whole internal and external surface area of the bottles Wash water in the bottle washer should be thoroughly drained and changed frequently to prevent algal growth '

(Page 9, clause 5.1.1)— Substitute the following for the existing clause

'5.1.1 BIS Certification Mark

Each bottle may also be marked with the Standard Mark

5.1.1.1 The use of the Standard Mark is governed by the provisions of *Bureau of Indian Standards Act, 1986* and the Rules and Regulations made thereunder The details of conditions under which the licence for the use of Standard Mark may be granted to manufacturers or producers may be obtained from the Bureau of Indian Standards '

(Page 10, clause **B-1.1**, third line)— Substitute ' $95 \pm 2^{\circ}\text{C}$ ' for ' $70^{\circ} \pm 2^{\circ}\text{C}$ '

(Page 11, clause **B-2.1**, second and fifth line) — Substitute ' $95 \pm 2^{\circ}\text{C}$ ' for ' $70^{\circ} \pm 22^{\circ}\text{C}$ '.

(Page 11, clause **B-2.2**, second line)— Substitute ' $5 \pm 2^{\circ}\text{C}$ ' for ' $27^{\circ} \pm 2^{\circ}\text{C}$ '

(CHD 10)

Indian Standard

SPECIFICATION FOR GLASS FEEDING BOTTLES

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(Continued on page 2)

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(Continued from page 1)

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Indian Standard

SPECIFICATION FOR GLASS FEEDING BOTTLES

0. FOREWORD

0.1 This Indian Standard was adopted by the Indian Standards Institution on 27 May 1969, after the draft finalized by the Glassware Sectional Committee had been approved by the Chemical Division Council.

0.2 Taking into consideration the importance of feeding bottles and their almost universal use in feeding infants, Glassware Sectional Committee decided to formulate this standard. This standard recommends designs of glass feeding bottles which can be easily cleaned and sterilized and to which rubber teats can either be slipped on or secured with a metallic or plastic screw closure for providing a leak proof grip.

0.3 IS : 3565-1966* which prescribes requirements for rubber teats has already been printed

0.4 This standard has clause 5.2 which provides for agreement between the purchaser and the supplier.

0.5 For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test, shall be rounded off in accordance with IS : 2-1960†. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

1. SCOPE

1.1 This standard prescribes the requirements and the methods of sampling and test for glass feeding bottles.

1.1.1 This standard does not cover rubber teats and plastic or metallic closures required for these bottles.

*Specification for rubber teats for feeding bottles.

†Rules for rounding off numerical values (*revised*).

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2. TERMINOLOGY

2.1 For the purpose of this standard, the definitions given in IS : 1382-1961* in addition to the following shall apply.

2.2 Nominal Capacity — The volume of milk normally expected to be filled in the bottles at $27^{\circ} \pm 2^{\circ}\text{C}$.

2.3 Brimful Capacity — The volume of water required to fill the bottle completely at $27^{\circ} \pm 2^{\circ}\text{C}$.

3. TYPES

3.1 The bottles shall be of three types as follows:

- a) *Type 1* — with finish having one or two parallel rings to permit the rubber teat to be slipped on to provide a leakproof grip.
- b) *Type 2* — with finish having screw threads to permit the rubber teat to be secured with the help of a plastic or metallic closure to make it leakproof.
- c) *Type 3* — with opening at both ends.

4. REQUIREMENTS

4.1 Pattern — The recommended patterns of glass feeding bottles are illustrated in Fig. 1, 2 and 3.

4.2 Material and Workmanship — The bottles shall be well annealed and shall have a smooth surface with no cracks or brush marks.

4.3 Capacity The bottles shall have nominal and brimful capacities as follows:

<i>Type</i>	<i>Nominal Capacity</i> ml	<i>Brimful Capacity</i> ml	<i>Tolerance on Brimful Capacity</i> ml
Type 1	200	230	± 4
Type 2	225	255	± 4
Type 3	$\begin{cases} 200 \\ 100 \end{cases}$	$\begin{cases} 230 \\ 115 \end{cases}$	$\begin{cases} \pm 4 \\ \pm 2 \end{cases}$

4.4 Dimensions — The recommended dimensions for bottles of Types 1 and 2 shall be as given in Fig. 1 and 2 and for Type 3 as given in table appended to Fig. 3.

4.5 Finish — The finish of Type 1 bottles shall be as shown in Fig. 1, that of Type 2 as shown in Fig. 2 and Type 3 as shown in Fig. 3.

*Glossary of terms relating to glass industry.

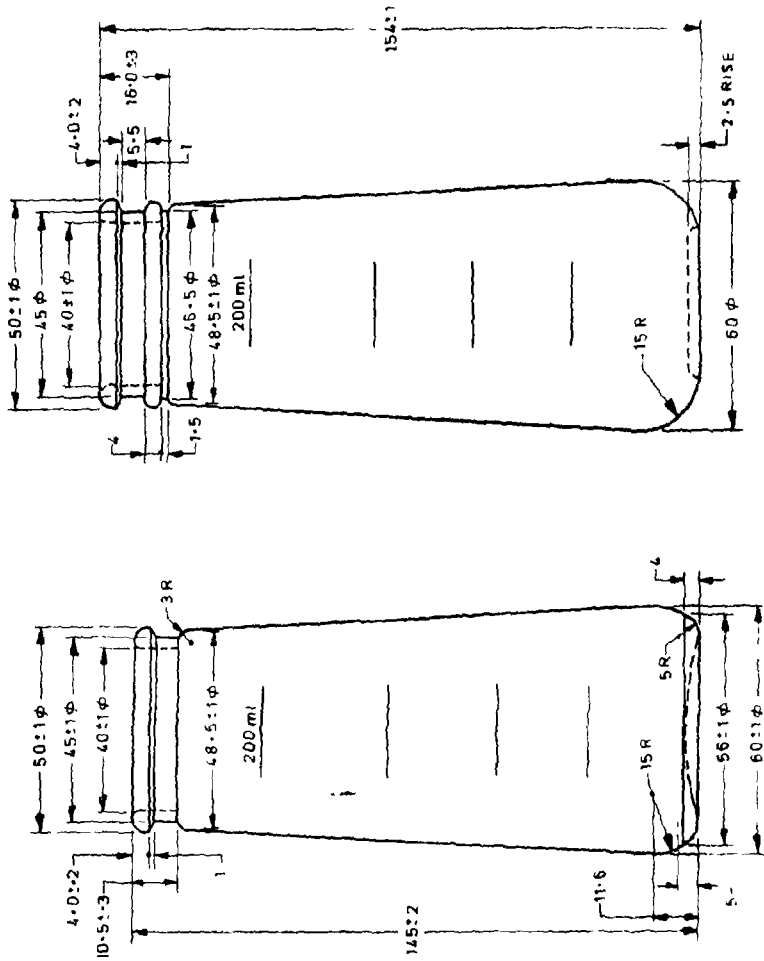
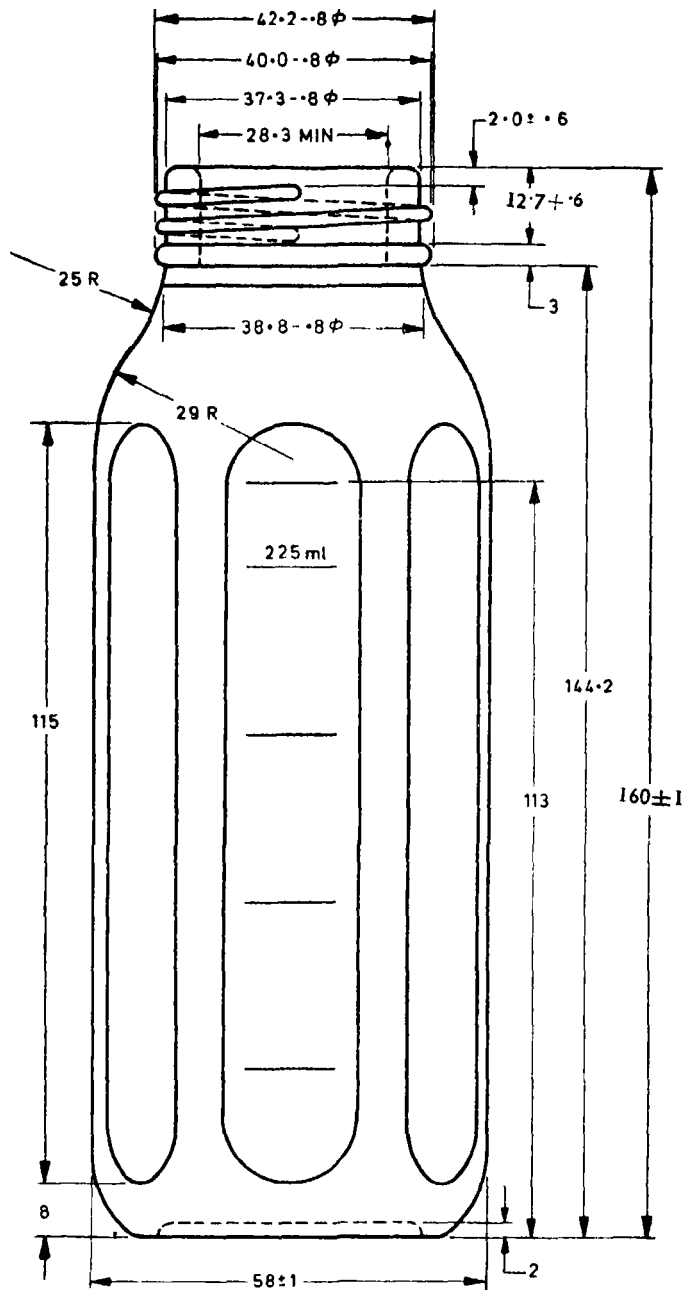


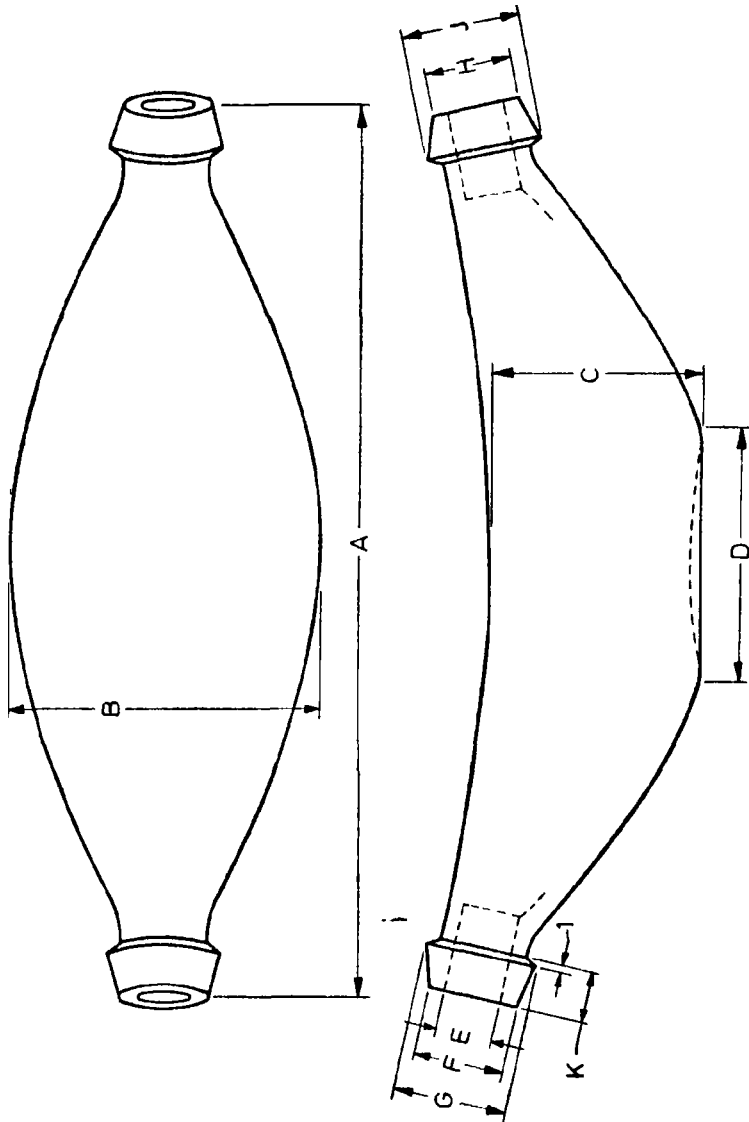
FIG. 1 GLASS FEEDING BOTTLE, TYPE 1

All dimensions in millimetres.



All dimensions in millimetres.

FIG. 2 GLASS FEEDING BOTTLE, TYPE 2



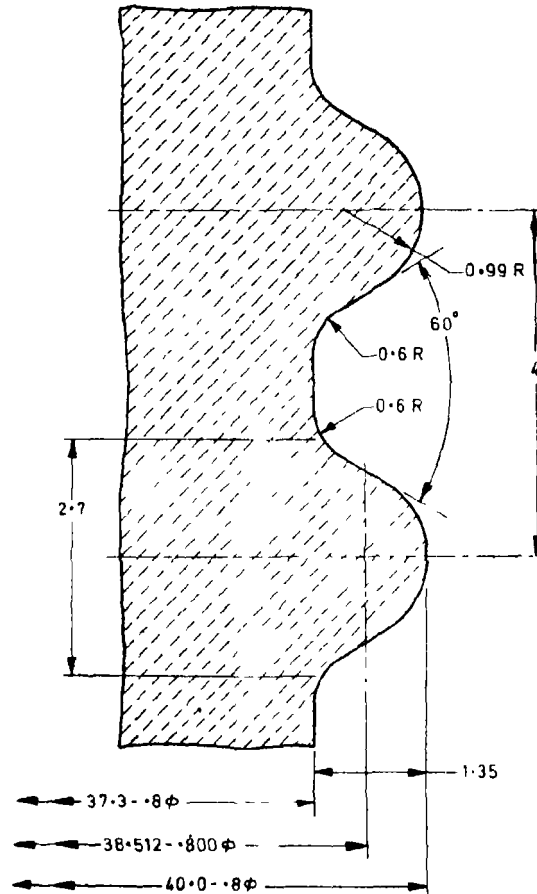
All dimensions in millimetres.

Sl. No.	NOMINAL CAPACITY	A	B	C	D	E	F	G	H	J	K
1	200 ml	200	72	48	57	13	20	25	20	26	11
2	100 ml	162	55	43	38	11	17	20	20	23	6

FIG. 3 GLASS FEEDING BOTTLE, TYPE 3

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4.5.1 The details of dimensions of finish of feeding bottles shall be as given in respective figures. The details of screw thread for finish of Type 2 bottles shall be as given in Fig. 4.



All dimensions in millimetres.

FIG. 4 DETAILS OF SCREW THREAD FOR FINISH OF TYPE 2 FEEDING BOTTLE

4.6 Scale and Graduations — The scale with graduations at every 50 ml shall be embossed or printed by silk screening on the outside of the bottle and shall also indicate in millilitres the nominal capacity. In the case printed scale, bottles shall be tested for the permanency of pigment also as prescribed in Appendix A.

4.7 Limit of Alkalinity — When graded according to the method prescribed in IS : 2303-1963*, the material shall conform to Type 3 of glass.

4.8 Thermal Shock Resistance — The bottles shall pass the test prescribed in Appendix B.

5. MARKING AND PACKING

5.1 Marking — Each bottle shall be marked permanently and legibly on its surface with the following information:

- a) Maker's name, or registered trade-mark, if any; at the bottom or any prominent place, and;
- b) Type and nominal capacity followed by letters 'ml', on the side.

5.1.1 The bottles may also be marked on their surface with the ISI Certification Mark.

NOTE — The use of the ISI Certification Mark is governed by the provisions of the Indian Standards Institution (Certification Marks) Act, and the Rules and Regulations made thereunder. Presence of this mark on products covered by an Indian Standard conveys the assurance that they have been produced to comply with the requirements of that standard, under a well-defined system of inspection, testing and quality control during production. This system, which is devised and supervised by ISI and operated by the producer, has the further safeguard that the products as actually marketed are continuously checked by ISI for conformity to the standard. Details of conditions, under which a licence for the use of the ISI Certification Mark may be granted to manufacturers or processors, may be obtained from the Indian Standards Institution.

5.2 Packing — The bottles shall be packed as agreed to between the purchaser and the supplier.

6. SAMPLING

6.1 Representative samples of the bottles shall be drawn and the criteria for conformity be determined as prescribed in Appendix C.

*Method of grading glass for alkalinity.

APPENDIX A

(*Clause 4.6*)

TEST FOR PERMANENCY OF PIGMENT

A-0. General — This test is meant only for those feeding bottles which have a printed scale and graduations

A-1. REAGENTS

A-1.1 Sodium Bichromate — (*see* IS : 249-1968*).

A-1.2 Concentrated Sulphuric Acid — relative density, 1.834 approximately (*see* IS : 266-1961†).

A-2. PROCEDURE

A-2.1 Weigh about 20 g of sodium bichromate and dissolve in 1 500 ml of concentrated sulphuric acid and dilute to 2 500 ml with water. Immerse the bottles in the solution at room temperature for 15 minutes. Rinse the samples with water and dry.

A-2.1.1 The bottles shall be taken as having satisfied the requirements of the test if the printed impressions do not become illegible.

APPENDIX B

(*Clause 4.8*)

TEST FOR THERMAL SHOCK RESISTANCE

B-0. PRINCIPLE

B-0.1 The bottles are subjected to a sudden change of temperature and examined for any cracks for damage.

B-1. APPARATUS

B-1.1 Hot Water Bath — preferably fitted with a stirrer, electrical heating elements and a thermostat to enable water to be heated within limits of $70^{\circ} \pm 2^{\circ}\text{C}$.

B-1.2 Cold Water Bath — preferably of the same capacity as hot water bath and fitted with a stirrer and a thermometer.

*Specification for sodium bichromate, technical.

†Specification for sulphuric acid (*revised*).

B-1.3 Wire Net Basket — of such a size as would hold the required number of samples and would be easily immersed and taken out of the hot and cold water baths.

B-2. PROCEDURE

B-2.1 Place the requisite number of bottles (*see C-2.2*) in the basket and immerse in the hot water bath previously heated to $70^{\circ} \pm 2^{\circ}\text{C}$ in such a way that they get filled with hot water and are completely immersed in it for 15 minutes. Maintain the temperature of the bath at $70^{\circ} \pm 2^{\circ}\text{C}$.

B-2.2 Transfer the basket containing bottles filled with hot water to the cold water bath maintained, at $27^{\circ} \pm 2^{\circ}\text{C}$. The process of transferring, the basket from hot to cold water bath shall be completed within 10 ± 2 seconds. The bottles shall be almost completely immersed in the bath, without following cold water to enter them, the period of immersion being 1.5 to 2 minutes. The basket shall be taken out of the cold bath and the bottles shall be examined for any damage.

B-2.2.1 The bottles shall be taken to have complied with the requirements of this test if the bottles do not chip, crack or break.

NOTE 1 — In the case of Type 3 bottles, one of the openings shall be plugged.

NOTE 2 — Bottles used for the purpose of this test shall not be subjected to further testing and shall also not be put into service.

APPENDIX C (*Clause 6.1*)

SAMPLING AND CRITERIA FOR CONFORMITY FOR GLASS FEEDING BOTTLES

C-1. SCALE OF SAMPLING

C-1.1 Lot — In any consignment all the feeding bottles of the same type, pattern and nominal capacity belonging to the same batch of manufacture shall be separated in groups of 1 000 bottles or less. Each such group shall constitute a lot.

C-1.2 Samples shall be tested from each lot for ascertaining the conformity of the bottles to the requirements of the specification.

C-1.3 Sample Bottles — The number of bottles to be selected at random from the lots of different sizes for different tests shall be in accordance with Table 1.

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C-1.3.1 In order to ensure the randomness of selection, random number tables shall be used. In case such tables are not available, the following procedure is recommended:

Starting from any bottle in the lot, count them 1, 2, 3, ..., up to r and so on. Every r th bottle thus counted shall be chosen, r being the integral part of N/n (see Table 1).

TABLE 1 NUMBER OF TESTS AND CRITERIA FOR CONFORMITY FOR DIFFERENT CHARACTERISTICS

FOR VISUAL AND DIMENSIONAL CHARACTERISTICS					FOR THERMAL SHOCK RESISTANCE TEST			
Lot	Size	Stage	Sample Size	Cumulative Sample	Acceptance No	Rejection No.	Sample Size	Acceptance No.
N			R		a	r		
(1)		(2)	(3)	(4)	(5)	(6)	(7)	(8)
Up to 150		First	20	20	*	2	5	0
		Second	20	40	1	2		
151 „ 500		First	32		0	3	5	0
		Second	32	32	3	4		
501 „ 1 000		First	50	64	1	4	10	1
		Second	100	100	4	5		

*Acceptance is not allowed at this stage.

C-2. NUMBER OF TESTS AND CRITERIA FOR CONFORMITY

C-2.1 Select two more bottles from the lot at random and test them for alkalinity according to the method given in IS : 2303-1963*. If one of both the bottles fail in the test, the lot shall be rejected without further testing. If both the bottles pass the test, the lot shall be examined for other characteristics.

C-2.2 The number of bottles to be selected from the lot for testing for thermal shock resistance shall be in accordance with col 7 of Table 1. These shall be separately selected apart from those bottles selected under C-1.3. There shall be no failures when five bottles are tested and there shall be at the most one failure when 10 bottles are tested for accepting the lot in respect of this characteristic.

C-2.3 For Visual and Dimensional Requirements — The lot which has passed alkalinity test and thermal shock resistance test shall then

*Method for grading glass for alkalinity.

be examined for visual and dimensional characteristics. The number of bottles to be selected for this purpose shall be in accordance with col 3 of Table 1. A bottle failing in one or more of the requirements for these characteristics shall be called a defective.

C-2.3.1 Each of the bottles selected in the first stage in accordance with col 3 of Table 1 shall be examined for visual and dimensional characteristics. If the number of defectives is less than or equal to the corresponding acceptance number (a) the lot shall be accepted. If the number of defectives is equal to or greater than the rejection number (r) the lot shall be rejected. If it lies between the acceptance number and the rejection number, a second sample of size equivalent to that of the first sample shall be taken to determine the conformity or otherwise of the lot. The number of defectives found in the first and the second sample shall be combined and if the combined number of defectives in the cumulative sample is less than or equal to the corresponding acceptance number, the lot shall be accepted in respect of visual and dimensional characteristics; other wise it shall be rejected.

C-2.4 In the case of glass feeding bottles with printed scale on them two bottles shall be selected at random if the lot size is equal to 500 or below and four bottles shall be selected if the lot size is more than 500, in addition to those already drawn under **C-1.3**. These bottles shall be tested for permanency of pigment. The lot shall be deemed acceptable in respect of this characteristic if all the bottles selected above pass the test.

INDIAN STANDARDS

ON

Glassware and Raw Materials for Glass Industry

IS:		Rs
488-1963	Glass making sands (<i>revised</i>)	3.50
489-1961	Glass ampoules (<i>revised</i>)	4.50
490-1967	Vaccine ph??? (<i>first revision</i>) ...	3.0
997-1957	Limestone for glass industry	2.00
1100-1957	Distilled water glass bottles	1.50
1107-1957	Aerated water glass bottles, crown cork type	1.50
1108-1905	Medicinal round glass bottles, narrow mouth (<i>revised</i>)	2.00
1112-1963	Glass shells for general lighting service lamps (<i>revised</i>)	2.50
1116-1957	Glass globes for hurricane lanterns	1.00
1382-1961	Glossary of terms relating to glass industry	7.00
1491-1959	Glass containers for preserved fruits industry	2.00
1662-1982	Glass liquor bottles (<i>revised</i>) ...	2.00
1761-1960	Transparent sheet glass for glazing and framing purposes ...	2.00
1922-1901	Liquid gold, bright	1.00
1945-1961	Glass bottles for fluid ink	1.50
1961-1968	Glass tableware (<i>first revision</i>)	2.50
1975-1961	Colours for signal glasses for use in railways	2.50
1984-1961	Penicillin vials	2.00
2091-1962	Glass beer bottles	2.50
2303-1963	Method of grading glass for alkalinity	1.50
2351-1963	Marble stoppered aerated water glass bottles	2.00
2553-1964	Safety glass (<i>revised</i>)	2.50
2835-1965	Transparent sheet glass (selected quality)	2.50
3423-1965	Glass containers for transfusion fluids	2.50
3438-1965	Silvered glass mirrors for general purposes	2.00
3702-1966	Refills for vacuum flasks	1.50
5081-1969	Glass tubes for fluorescent lamps	2.50
5168-1969	Glass feeding bottles ...	5.00

PUBLICATIONS OF INDIAN STANDARDS INSTITUTION

INDIAN STANDARDS

Over 8 000 Indian Standards, broadly classified under the following main heads, have been issued so far:

Agriculture & Food	Electrotechnical
Chemical	Mechanical Engineering
Civil Engineering	Structural & Metals
Consumer Products	Textile

Of these, the standards belonging to the Chemical Group fall under the following categories:

Acids	Laboratory Glassware, Thermometers and Related Apparatus
Adhesives	Lao and Lac Products
Alcohols and Allied Products	Leather, Leather Goods and Leather Dressings
Alkalis	Linters and Allied Products
Brushware	Lubricants
Ceramicware, Enamelware and Laboratory Porcelain	Metal Containers and Closures
Chemical Hazards	Oils and Fats, Oleaginous Seeds and Fruits
Chemicals, Inorganic (Miscellaneous)	Paints and Allied Materials
Chemicals, Organic (Miscellaneous)	Paper, Paper Products and Packaging Materials
Coal and Coke	Perfumery Materials, Natural and Synthetic
Coal Carbonization Products	Petroleum and Petroleum Products
Cosmetics and Toilet Goods	Photographic Chemicals
Dye Intermediates	Plastics
Electroplating Chemicals	Polishes
Explosive and Pyrotechnic Materials	Panting Inks
Fertilizers	Rubber and Rubber Products
Fillers, Stoppers and Putties	Soaps and Other Surface Active Agents
Footwear	Thermal Insulation Materials
Glass and Glassware	Treated Fabrics
Industrial Gases	Water and Water Treatment
Inks and Allied Products	
KATTHA, Tanning Materials and Allied Products	

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